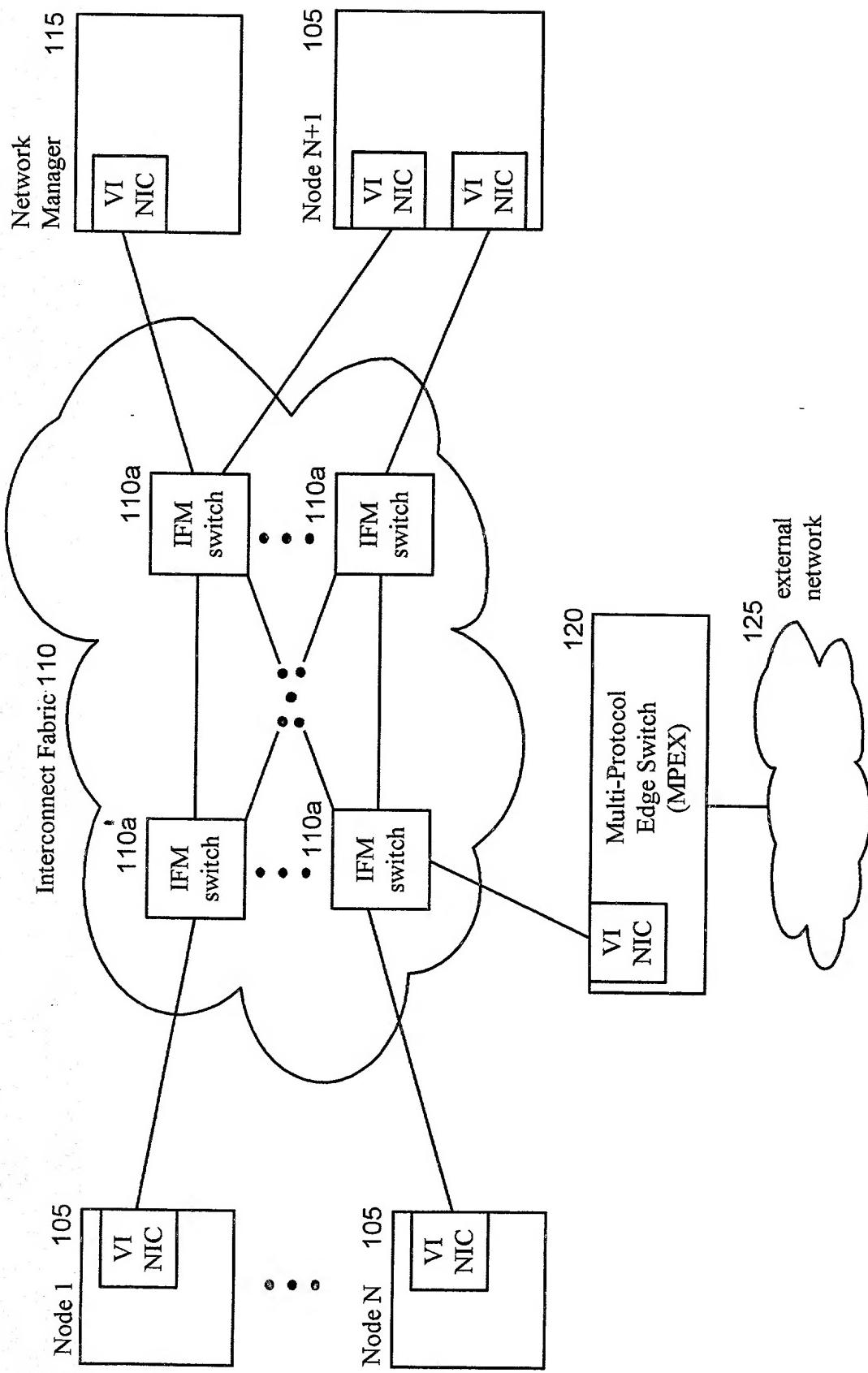


FIGURE 1: SYSTEM ARCHITECTURE



**Fig. 1**

## T C P / I P F r a m e

Example Incoming Ethernet Frame With TCP/IP Packet Payload Containing An HTTP Request Message

202	<Preamble>	} 8 bytes	} destination physical address – 6 bytes (shown in hex format)	Ethernet frame header
204	08-00-20-03-00-50	} source physical address – 6 bytes (hex format)		
206	08-00-20-05-1A-11			
208	08-00	} payload type – 2 bytes (hex format – 08-00 is IP packet)		
210	<Various IP Header fields>	} 9 bytes (includes Type of Service and Length)		
212	06	} payload protocol – 1 byte (hex format – 06 is TCP)		
214	<IP Header Checksum>	} 2 bytes		
216	153.83.28.125	} source IP address – 4 bytes (byte-decimal format)		
218	128.32.78.105	} destination IP address – 4 bytes (byte-decimal format)		
220	<IP Header Options>	} variable length		
222	3183	} source port – 2 bytes (decimal format)		
224	80	} destination port – 2 bytes (decimal format – 80 is HTTP)		
226	<Various TCP Header fields>	} 20 bytes (hex format)		
228	GET /pub/text.html HTTP/1.1	} HTTP request line – variable length (text format)		
230	Host: www.XYZ.com			
232	User-agent: Mozilla/3.04	} HTTP message header fields – variable length (text format)		
234	:			
236	<Frame Check Sequence>	} 4 bytes		

**Figure 2A**

### Example Outgoing Fibre Channel Frame With TCP/IP Packet Payload Containing An HTTP Request Message

```

252   <Start Of Frame>           } 4 bytes
254   <Routing Control>         } 1 byte – specifies frame category (e.g., data) & possibly function (e.g., unsolicited request)
256     A2-37-B5                } destination port physical address – 3 bytes (shown in hex format)
258   <Class Specific Control>  } 1 byte (can include priority and preemption information)
260     6B-21-1D                } source port physical address – 3 bytes (hex format)
262     05                      } payload type – 1 byte (hex format – 05 is IP packet)
264   <Various FC header fields> } 15 bytes (includes an indication if payload has optional headers)
266   <Optional Headers>        } variable length (protocol-specific headers)
268   <Various IP header fields> } 9 bytes (includes Type of Service and Length)
270     06                      } payload protocol – 1 byte (hex format – 06 is TCP)
272   <IP Header Checksum>      } 2 bytes
274     153.83.28.125          } source IP address – 4 bytes (byte-decimal format)
276     128.32.78.105          } destination IP address – 4 bytes (byte-decimal format)
278   <IP Header Options>       } variable length
280     3183                    } source port – 2 bytes (decimal format)
282     80                      } destination port – 2 bytes (decimal format – 80 is HTTP)
284   <Various TCP header fields> } 20 bytes (hex format)
286   GET /pub/text.html HTTP/1.1 } HTTP request line – variable length (text format)
288     Host: www.XYZ.com        } HTTP message header fields – variable length (text format)
290     User-Agent: Mozilla/3.04  } HTTP message body – variable length (text format)
292     :                         }
294   <HTTP Redundancy Check>  } 4 bytes
296   <End Of Frame>           } 4 bytes

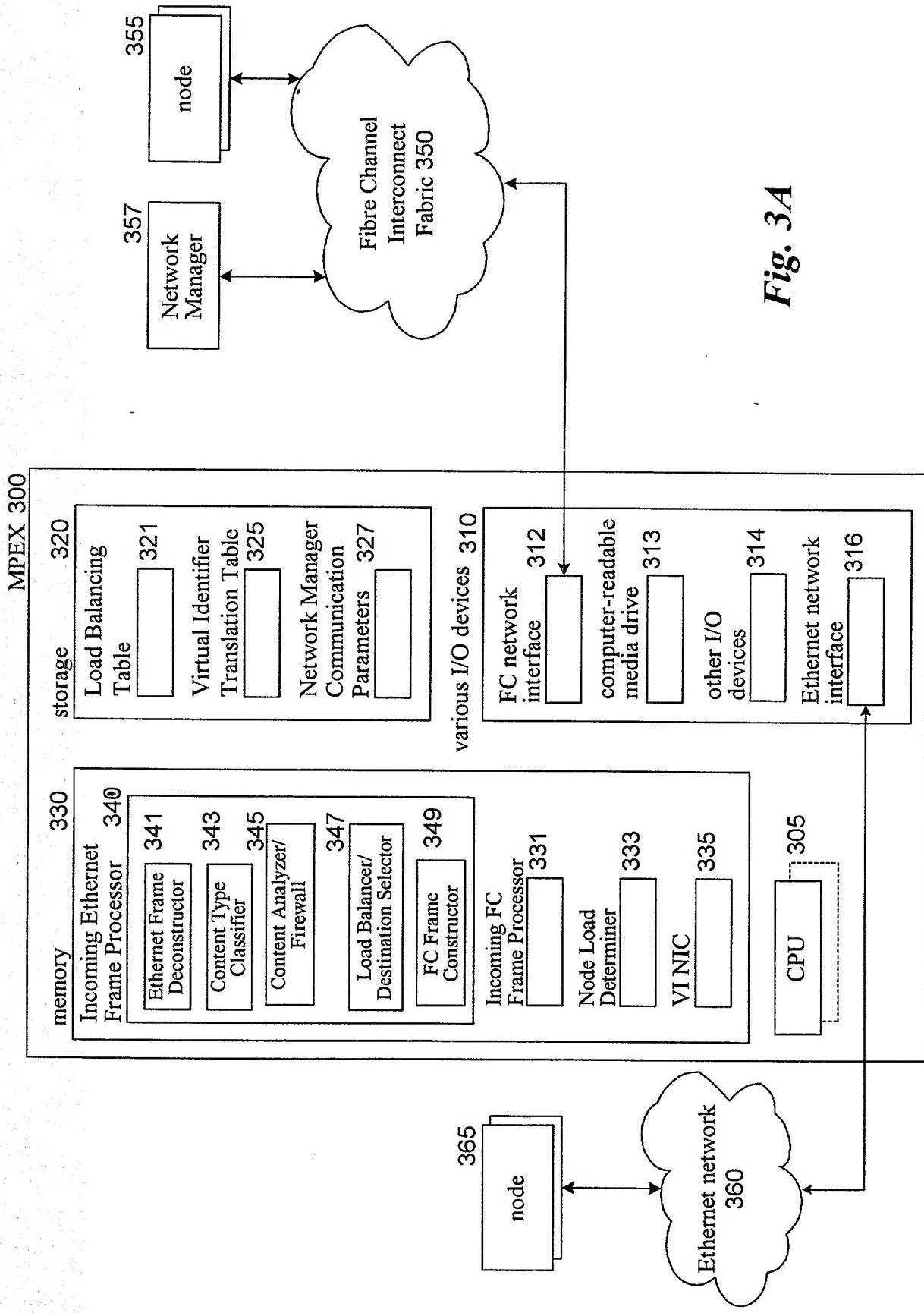
```

The diagram illustrates the hierarchical structure of the outgoing Fibre Channel frame. It shows nested brackets grouping different types of fields, each labeled with its corresponding layer and description:

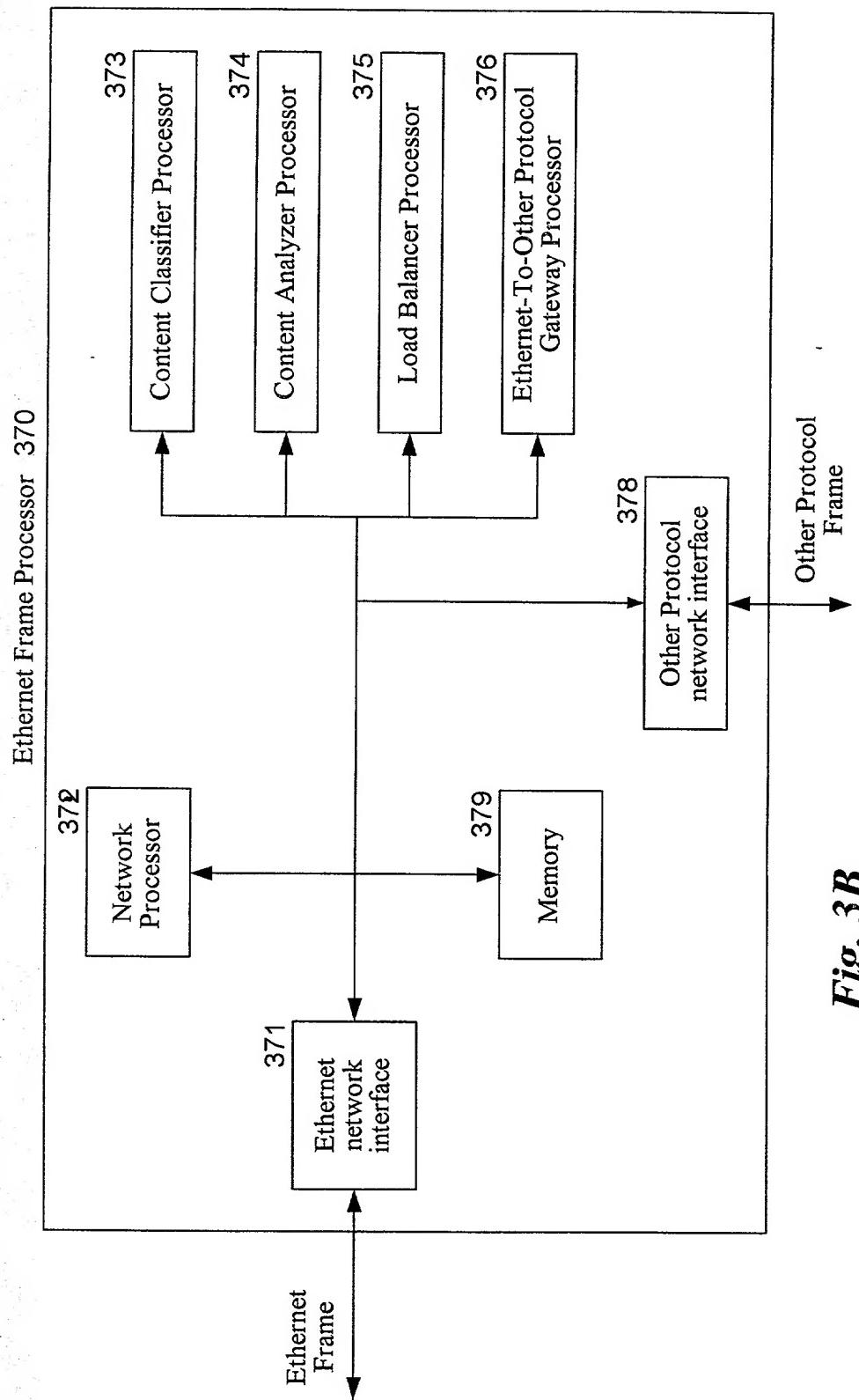
- Fibre Channel frame header:** Brackets spanning the first 252 bytes, containing the Start Of Frame, Routing Control, Class Specific Control, and IP header fields.
- IP packet header:** Brackets spanning the 252-272 bytes, containing the IP header checksum.
- TCP packet header:** Brackets spanning the 272-284 bytes, containing the IP header options.
- TCP packet payload (IP packet payload):** Brackets spanning the 284-294 bytes, containing the HTTP request line and message header fields.
- HTTP Message Body:** Brackets spanning the 294-296 bytes, containing the HTTP message body.
- Fibre Channel frame payload (IP packet):** Brackets spanning the entire 252-296 bytes, encompassing all layers from the IP header options to the message body.

**Figure 2B**

## FIGURE 34.6E DOT



**Fig. 34**



**Fig. 3B**

# TOP SECRET//EYES ONLY

MPEX 380

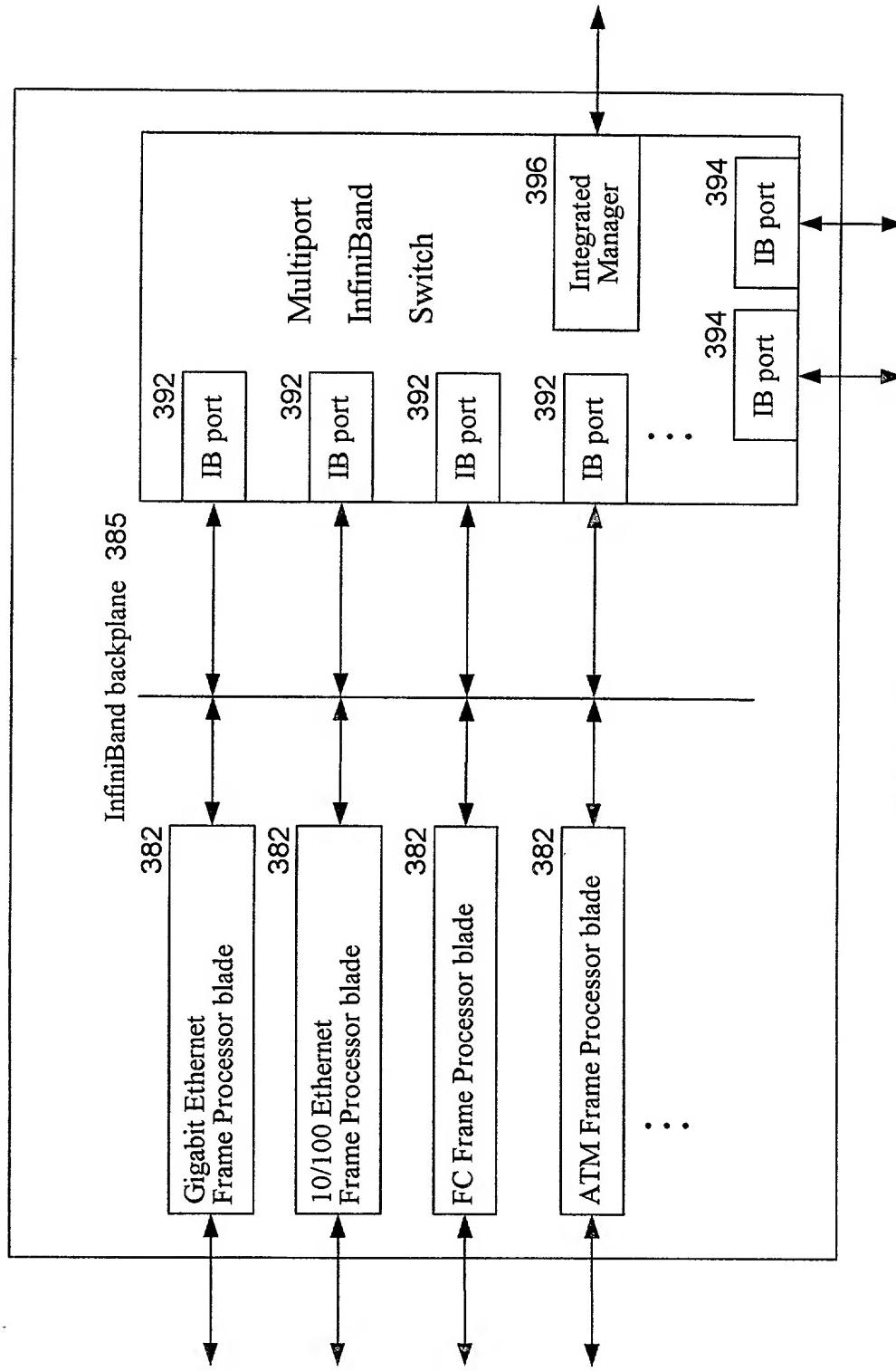
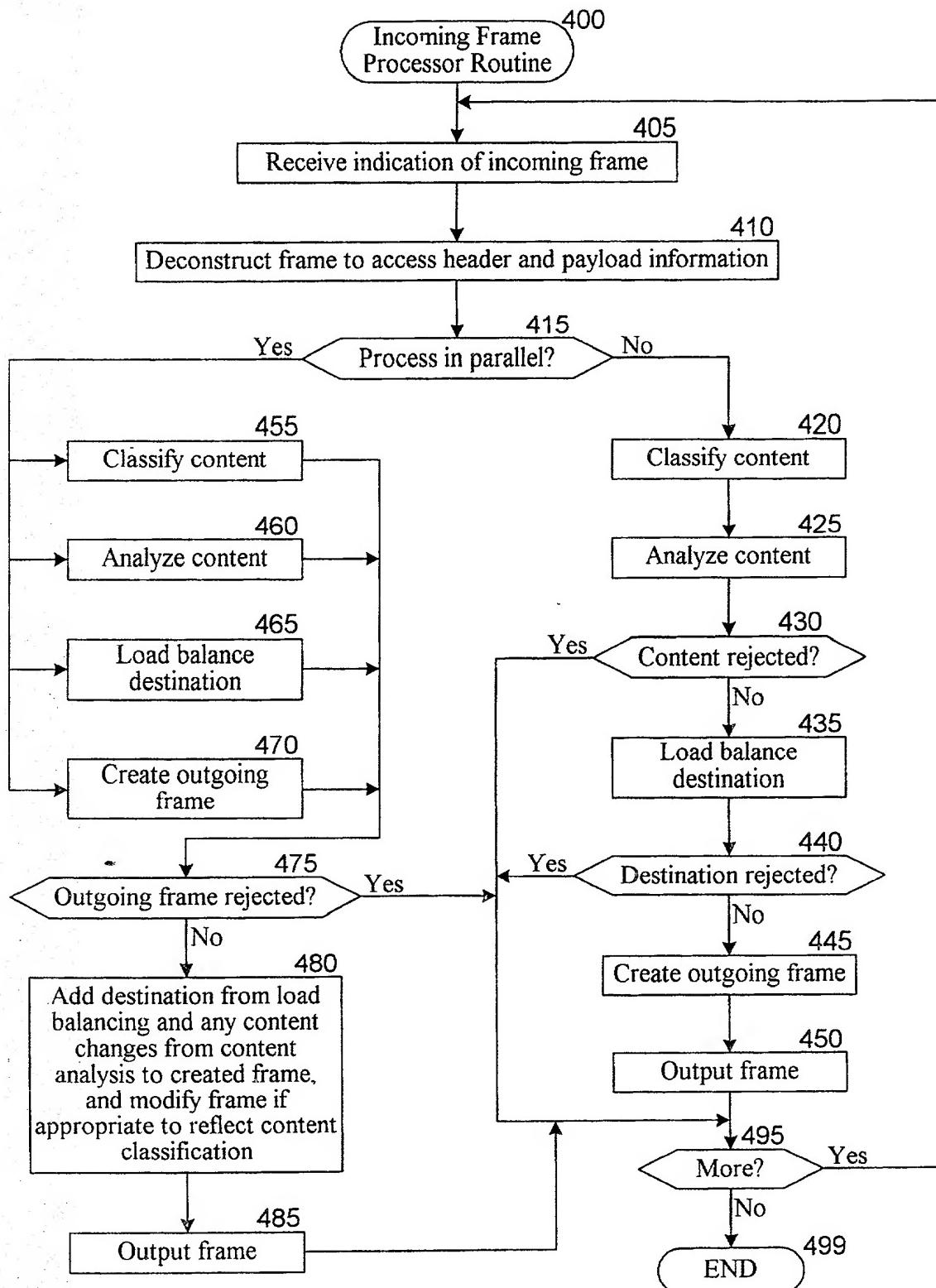


Fig. 3C



*Fig. 4*